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Changes of Adolescents' Defence Mechanisms during the First Year of High School Education

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ABSTRACT

The goal of this study was to analyse the defence mechanisms's changes during adolescent's adaptation to the new schooling terms at the first year in high school. Sample of 266 students, mean age 15, have been included in the research. Kellerman's Life Style Questionnaire (LSQ) was administred for measuring defence mechanisms at the beginning and at the end of the scool year. Results show that regression and reactive formation are changing at most; regression raises ($p < 0.005$) while reactive formation decreases ($p < 0.000$). Boys used repression, while girls reactive formation more frequently in both measuring. Displacement was »male« defence in the first measuring; but at repeated measuring this difference in sex vanished. The sources of anxiety can be found partly in new school environment and in adolescent's effort to »solve the problem« with sexual impulses and aggression using different sets of defences.

Key words: middle adolescence, defence mechanisms

Introduction

The basic functions of ego is to connect and create the experience, while the individual functions of ego stand in the service of adaptation proces to requirements coming from external and internal world^{1,2}. The important functions of ego are directed towards the control of impulses; the development of these functions is one of the factors that determines the level of development of ego³. The control of the impulses is carried out on various manners; one of it is by the functioning of defence mechanisms of ego. The defence mechanisms are defined as unconscious processes standing in the function of ego, by which the anxiety and disturbance are preserved or withheld^{4,5}.

Since the very beginning of the psychoanalytical theory development, an interest has been noticed, directed towards the idea of defence mechanisms, as a part of normal development of the person^{6,7}, being recognized and enlarged in the basic works of A. Freud⁸. Numerous theoreticians point out, on direct or indirect way, that there is a pattern existing related to development of defence mechanisms^{9,10}. The results of recent researches refer to general and basic importance of defence mechanisms

that are in accordance with Freud's observation, as well as with the contribution of modern psychological and sociological studies realted to better understanding of the phenomenon itself¹¹. In the frame of the above stated, a tendency of enlarged interest has been noticed for the defence mechanisms even in developmental psychology. The studies of development mechanisms in the field of developmental psychology are most frequently directed towards childhood period^{12,13}, and late adolescence^{10,14–16}.

One of the ways by which the children and adolescents »resolve the problem« in the critical situations followed by disturbances, is performed by the functioning of defence mechanisms. In accordance with the conclusions of Cramer and Valiant^{16–18}, the defence mechanisms follow the development processes. In other words, specific defences characterize the specific development periods. For example, late adolescence is characterized by defence that includes projecton and indetification. Defence by denial is, however characteristic for younger children, but is often used by older adolescents, as well. This development continuity of defence usage is shown in the results of numerous studies^{9,10,14,16,17,19,20}.

Researches of defence mechanisms aimed at period of middle adolescence have not been found in the electron base of data. The characteristics for the period of middle adolescence are specific development conflicts, caused by development tasks of this phase, which together with the impulsiveness as basic characteristic of behaviour in adolescence, also brings to the activity of defence mechanisms. According to psychoanalytical theory, there are two basic tasks of middle adolescence: separation from parents and forming of sexual identity²¹.

The period of middle adolescence coincide with the first year of education in high school. At the same time, it is a period of adaptation to new conditions of a new school environment. The changes of the schooling terms bring additional tasks to the adolescents on their way of growing up. Therefore, we could say that new, external stressors are being added to the internal, development stressors, forming in this way a »specific structure of stress« at the adolescents in this period²². Valiant points out the importance of the activity of defence mechanisms and their positive role in the psychological development during the period of adolescence, when the sexual attention and aggressiveness are expressed. The reestablishment of physiological balance is accomplished by the activity of defence mechanisms, postponing or redirecting the suddenly intensified biological vices²³. Because of that, inclusion of researches related to defence mechanisms in the processes of psychological development of children and adolescents and its observation enables better development review and better understanding of the children's and adolescents' behaviour²⁴.

The theoretical concept of defence mechanisms according to Plutchik and his colleagues has resulted in the creation of Life Style Inventory, a measuring instrument that presents the relationship between defence mechanisms and the emotions²⁵. According to this theory that respects the psychoanalytical theory, specific defence mechanisms serve for regulation of specific emotions. Eight of Plutchik's emotions – acceptance, joy, fear, expectation, disgust, sadness, anger and surprise, are connected with eight basic defence mechanisms—denial, reactive formation, repression (including isolation and introjection) intellectualization (including sublimation and undoing), projection, compensation (including identification and phantasy), displacement and regression (including acting-out). The repression is originally connected with balancing of fear, and is, therefore as basic defence, included in all the other defence mechanisms. Emotions, like defence mechanisms, include dimensions of polarity and similarity. Depending on whether they more block the impulses or release them, Plutchik and Kellerman divide defence mechanisms to blocking mechanisms—denial, reactive formation, repression, intellectualization; and releasing mechanisms—projection, compensation, displacement and regression^{26–28}.

Following theoretical concepts of defence mechanisms and taking into consideration the specific characteristics of the adolescent's development phase, the research has been focused at the analysis of defence mechanism's possible changes during the period of adaptation of the ado-

lescents to the new schooling terms during the first year at high school. As it concerns the general population of adolescents, we expect the results to show specific changes happening inside the defence system at this age. Furthermore, we were interested to see whether these changes in comparison to the specific defence varies in relation to the sex of adolescent, and whether these changes are happening inside the blocking or releasing group of defence mechanisms.

Subjects and Methods

Subjects

The students of nine first year of High School in Rijeka have been included in research study (N=266). The choice for the students of the first year of High school have been made due to the specific tasks of adolescent's development phase (middle) as they are expected to get adopted to the new terms of the schooling. The age of the adolescents is equal (14–15 years). The research has been made during the school year with the application of the instruments at the beginning and at the end of the school year (September/October and May/June). At first measuring (N1=266) 205 female adolescent have been included (77.06%) and 61 male adolescent (22.93%), while at second measuring (N2=228) 178 female (78.70%) and 50 male adolescent (21.93%).

Instruments

The Life Style Inventory (further referred to as LSI) whose author is Kellerman, consists of 92 questions measuring eight specific defence mechanisms. Eight basic emotions are connected with eight basic defence mechanisms, resulting in eight scales with certain number of statements for each of them: denial, regression, compensation, intellectualization, repression, displacement, projection and reactive formation²⁹.

Methods

The results have been statistically processed, using computer Statistic Package for Social Sciences (SPSS) for Windows Release 7.5. Calculations have been made to show the metric characteristics of the questionnaire, then the reliability of the results have been checked with the use of Cronbach Alpha consistency coefficient and test-retest reliability due to repeated measuring. Descriptive statistic parameters have been noted, while numeric data have been presented as $X \pm SD$. Test for independent and dependent samples have been made for the analysis of the results.

Results

Comparison of the results from the first and second measuring received on the LSI scales have been shown on Table 1. It is evident from the Table 1 that statistically important difference can be seen on the scale for regression ($t=2.37$, $p=0.019$) and on the scale for reactive

TABLE 1
THE SIGNIFICANCE OF THE DIFFERENCES IN THE MEAN SCORES AT THE BEGINNING AND THE END OF THE FIRST GRADE OF SECONDARY SCHOOL IN EIGHT DEFENCE MECHANISMS OF KELLERMAN'S LIFE STYLE INVENTORY (LSI) USING T-TEST

L S I	DEN		R. FORM		REPRES		INTEL	
	I.	II.	I.	II.	I.	II	I.	II.
X	5.02	4.84	4.72	4.32	2.71	2.75	7.69	7.63
SD	1.78	1.87	1.90	1.70	1.78	1.82	1.88	1.95
R	0.426		0.541		0.447		0.446	
df	227		227		227		227	
t	1.356		3.545		0.321		0.492	
p	0.177		0.000***		0.749		0.623	

L S I	PRO		COMP		DISPL		REGRES	
	I.	II.	I.	II.	I.	II	I.	II.
X	7.46	7.34	4.77	4.96	3.00	2.96	5.29	5.56
SD	2.16	2.27	2.03	2.01	1.76	1.83	2.25	2.68
R	0.487		0.541		0.454		0.599	
df	227		227		227		227	
t	0.856		1.471		0.352		2.372	
p	0.393		0.143		0.725		0.019*	

DEN – denial, R. FORM – reactive formation, REPRES – repression, INTEL – intellectualisation, PRO – projection, COMP – compensation, DISPL – displacement, REGRES – regression, t – t-test for dependant sample, * $p < 0.05$, *** $p < 0.001$

formation ($t=3.55$, $p=0.000$), while the remaining measured defence mechanisms (denial, repression, intellectualization, projection, compensation and displacement) do not show differences on the level of statistic importance. The regression is considerably higher at second ($X=5.56$, $SD=2.68$) in comparison to the first measuring ($X=5.29$, $SD=2.25$). Reactive formation is, on the other hand, considerably higher at first measuring ($X=4.72$, $SD=1.90$) in comparison to the second measuring ($X=4.32$, $SD=1.70$).

Statistically important difference have been found for the male and female adolescents related to repression ($t=3.27$, $p=0.002$); displacement ($t=3.20$, $p=0.002$) and

reactive formation ($t=4.24$, $p=0.000$). LSI scales for denial, regression, compensation and projection do not show difference on the level of statistical importance when it concerns boys and girls.

As it can be seen on Table 2 on scales of repression and displacement, boys has attained considerably higher score ($X=2.53$, $SD=1.74$) for repression and ($X=3.84$, $SD=2.07$) for displacement scale in comparison with girls ($X=2.53$, $SD=1.74$ for repression and $X=2.91$, $SD=1.72$ for displacement scale). However, on the scale for reactive formation, girls attain statistically considerably higher score ($X=4.96$, $SD=1.83$), in comparison to boys ($X=3.80$, $SD=2.01$).

TABLE 2
SIGNIFICANCE OF THE DIFFERENCES IN THE MAEN SCORES BETWEEN GIRLS AND BOYS AT THE BEGINNING OF THE FIRST GRADE OF SECONDARY SCHOOL IN 8 DEFENCE MECHANISMS OF KELLERMAN'S LIFE STYLE INVENTORY (LSI) USING T-TEST

	L S I							
	DEN	R. FORM	REPRES	INTEL	PRO	COMP	DISPL	REGRES
BOYS (n=61)								
X	5.08	3.80	3.56	7.34	7.18	4.95	3.84	6.00
SD	1.89	2.01	2.26	1.89	2.25	2.24	2.07	3.09
GIRLS (n=205)								
X	5.04	4.96	2.53	7.78	7.66	4.74	2.91	5.23
SD	1.78	1.83	1.74	1.84	2.11	1.96	1.72	2.44
t	0.16	4.03	3.27	0.58	1.50	0.67	3.20	1.78
p	0.875	0.000***	0.002**	0.118	0.138	0.502	0.002**	0.073

DEN – Denial, R. FORM – reactive formation, REPRES – repression, INTEL – intellectualisation, PRO – projection, COMP – compensation, DISPL – displacement, REGRES – regression, t – t-test for independent samples, ** $p < 0.01$, *** $p < 0.000$

TABLE 3
SIGNIFICANCE OF THE DIFFERENCES IN THE MAEN SCORES BETWEEN GIRLS AND BOYS AT THE END OF THE FIRST GRADE OF SECONDARY SCHOOL IN 8 DEFENCE MECHANISMS OF KELLERMAN'S LIFE STYLE INVENTORY (LSI) USING T-TEST

	LSI							
	DEN	R.FORM	REPRES	INTEL	PRO	COMP	DISPL	REGRES
BOYS (n=50)								
X	4.60	3.48	3.30	7.60	7.40	5.16	3.22	5.98
SD	1.65	1.47	1.85	2.25	2.27	2.00	1.89	2.70
GIRLS (n=178)								
X	4.91	4.55	2.59	7.63	7.32	4.90	2.89	5.56
SD	1.92	1.69	1.78	1.87	2.28	2.02	1.81	2.68
t	1.13	4.39	2.41	0.10	0.22	0.81	1.11	0.97
p	0.262	0.000***	0.018*	0.920	0.827	0.419	0.271	0.335

DEN – denial, R. FORM – reactive formation, REPRES – repression, INTEL – intellectualisation, PRO – projection, COMP – compensation, DISPL – displacement, REGRESS – regression, t – t-test for independent sample, * $p < 0.05$, *** $p < 0.000$

Table 3. shows the comparison of the LSI results from scales, related to sex. Statistically important difference between the male and female adolescents can be noticed on the scales of repression ($t=2.47$, $p=0.014$) and reactive formation ($t=4.06$, $p=0.000$). According to that, on the scales of repression, boys attained considerably higher score ($X=3.30$, $SD=1.85$) in comparison to girls ($X=2.59$, $SD=1.78$). On the scale of reactive formation, girls attained statistically considerably higher score ($X=4.55$, $SD=1.69$) in comparison to boys ($X=3.48$, $SD=1.47$).

Discussion

The received results show that regression and reactive formation are the only defence mechanisms that considerably change during observation in the middle phase of adolescence. The regression shows tendency of increase, while reactive formation, on the other hand, shows tendency of decrease. Other defence mechanisms (denial, repression, intellectualization, projection, compensation and displacement) do not show important changes in usage in the period of one year.

As stated by Valiant and Feldman, regression is one of primitive defences showing weakness and immaturity. Although regression enables the user to »have a rest«, it confuses the observer^{4,30}. On the first glance, »confusing« result of regression increase shows increase of one of immature defences, but at the same time, for the adolescents in the middle phase, it depicts specificity of their defence system, where movements towards progressive, interchange with regressive defence. On the later way, through regression, the adolescents with their specific language show their need for protection, control, or attention in relation to the unacceptable social surrounding and external works. Partly, »sometimes unacceptable« social surrounding represents the environment of the new school and the terms of the new surrounding directed towards the adolescents. Similar conclusion have been made by Araujo and his colleagues in their research of de-

fence mechanisms of adolescents, stating that the top of the evident weakness expressed in regressive defence, represents, in fact, hold back weakness, encaptured in inhibition and annulation, by which the user laterally retrieves in himself, fearfully getting away, or making excuses towards any clearly expressed and evident attempt of his own revelation or progress³¹.

Formation of sexual identity is a basic task in this development phase. This process, as is expected, leads to intensification of sexual vice and anxiety. Activation of defence by regression and tendency of increase of new defence mechanism during observation, show one of the ways of anxiety reduction. Function of regression, according to Kellerman, enables direct reaction. On the other hand, Plutchik, this same mechanism names as uncontrolling and expecting, as subjected emotion expressing unexpected, uncontrolled experience. Regression enables decrease of control with persons needing direct, motoric reaction, and therefore it is connected with impulsive attitude. Sometimes, adolescents with this type of attitude are judged as rude and with bad upbringing. As Cramer states, »real time« is a necessary dimension that contributes to the shaping and depicting of defence mechanisms¹⁶. The question is how the dynamics of regression usage would move in observation during further period of development of this population, in late adolescence. We consider that results gained by observation during one year period represent just one of the numerous and specific characteristics in development of defence mechanisms during adolescence. The above stated we partially find as a disadvantage of this research, but also as a stimulus for its continuation. According to the conclusions of Sjoback, defence reactions are dynamic and reversible⁵, so it can be expected that the level of regression would return to lower level, with further development.

As reactive formation of defence is most usually connected with restrain of sexual impulses, that is, feelings that begin as sexual attraction turns out to disgust, the

result of decreasing tendency of reactive formation usage shows that adolescents during observation have ever less need for restrain of sexual pulses and consequently less need for defences by reactive formation. On the other hand, the emotion regulated by reactive formation is joy, after all. Reactive formation is essentially a defence from enjoyment, that is joy, which means that the tested population of adolescents defend themselves from these emotions considerably less, as the school year is coming to its termination.

If we consider at the same time the tendencies of regression increase and reactive formation decrease, the results show that the defences directed towards sexuality are the one that changes most, with adolescents of this age. Consequently, these results can stay in favour of the effort of the adolescents to overcome one of basic development tasks of adolescence – forming of sexual identity. These results are complementary with the conclusions of Valiant who points out the importance of functioning of defence mechanisms in adolescence, related to sexuality²³.

Defence systems show difference in relation to sex when the question is about repression usage, reactive formation and displacement. In both measurements, repression is more frequently used by male, while reactive formation is more frequent with female adolescents. Displacement is in first measuring a characteristic of »male« defence system, but in repeated measuring this difference between the sexes disappear. Denial, regression, compensation, intellectualization and projection are equal with male and female, at both measurements.

Relevant researches related to repression can be found in the works of Wagner, who prefers the term »suppression« instead of »regression«, but both terms represent defensive activity of ego by which negative thoughts are strongly moved from conscience. Wegner researches show that defence with the usage of repression truly enables partial success, but by time, in spite of repression application, the frequency of undesired thoughts increases³². Referring to the above stated, and according to the results gained, showing that the male more frequently use repression. We can conclude that male have a need to find other, more efficient defences in the struggle with uneasiness. Observation of adolescents in the next development phase, that is, late adolescence, could provide an answer to the question how the repressive defence would move with male adolescents.

REFERENCES

1. LOEVINGER, J., Theories of ego development. In: BERGER, L. (Eds.): Clinical-cognitive psychology: Models and integrations. (Prentice-Hall, New York, 1969). — 2. HARTMAN, H., E. KRIS, R. M. LOEWENSTEIN: Papers on psychoanalytic psychology. Psychological issues, Monograph No.14. (International Universities Press, New York, 1964). — 3. LOEVINGER, J.: Ego development. (Jossey-Bass, San Francisco, 1976). — 4. VALIANT, G. E.: Ego Mechanisms of Defense, a Guide for Clinicians and Researches. (American Psychiatric Press, Washington, 1992). — 5. SJOBACK, H.: The Psychoanalytic Theory of Defensive Processes. (John Wiley & Sons, New York, 1973). — 6. FREUD, S., Repression. In: STRACHEY, J. (Eds.): The standard edition of the complete psychological works

The results of more intensive usage of reactive formation by girls at both measurements, show that the girls use defence directed towards restrain of sexual pulsions more intensively than men adolescents. This result leads to the fact that there are more intensive conflicts related to expression of sexual desires and attitude with girls, which can partially be caused by the way of upbringing³³. Namely, in our culture, as well as in others, it is allowed that young men express their sexual impulses more freely. The difference in the usage of displacement is more evident at the beginning of the school year, and the boys use this defence more frequently, in comparison to the girls. As displacement belong to less mature group of defence mechanisms, the result received could perhaps lead to the fact that boys are more regressive in this period, in comparison to the girls, that they are more willing to avoid open conflicts with the authorities, expressing their aggressive emotions towards less dangerous aims, in situations out of family or school (for example rooting groups). Similar conclusions have made by Baumeister et al., pointing out that defence by displacement enables space for alternative ways, overcoming in this way some disturbed or bad mood and aggression¹¹.

Conclusions

There is a change in the usage of defence mechanisms during one school year. The defence system of the adolescents of this age shows that regression and reactive formation are changing at the most, so that regression raises, while reactive formation decreases. Difference exist in the usage of repression, transfer and reactive formation, when it concerns the girls and boys. Both measurements show that repression is more frequently used by boy, while reactive formation are most frequently used by girl adolescents. At first measuring, displacement is characteristic of »male« defence system, but at repeated measuring this difference in sexes have vanished.

The sources of anxiety in the population of adolescents of this age can be found partly in new school environment, in one hand, and in the other, in their effort to »solve the problem« with sexual impulses and aggression, having in mind the fact that it is differently expressed with boys and girls, using different sets of defences.

of Sigmund Freud. (Hogart Press, London, 1957). — 7. FREUD, S., The ego and the id. In: STRACHEY, J. (Eds.): The standard edition of the complete psychological works of Sigmund Freud. (Hogart Press, London, 1961). — 8. FREUD, A.: The ego and the mechanisms of defense. (International Universities Press, New York, 1936). — 9. CRAMER, P., J. Res. Pers., 31 (1997) 58. — 10. CRAMER, P., J. Pers., 65 (1997) 233. — 11. BAUMEISTER, R. F., K. DALE, K. SOMMER, J. Pers., 66 (1998) 1081. — 12. STRAYER, J., W. ROBERTS, J. Behav. Dev., 20 (1997) 672. — 13. DOLLINGER, S. J., P. CRAMER, J. Pers. Assess., 54 (1990) 117. — 14. CRAMER, P., J. Res. Pers., 29 (1995) 341. — 15. CRAMER, P., J. Res. Pers., 32 (1998) 156. — 16. CRAMER, P.: The development of defense

mechanisms: Theory, research and assessment. (Springer-Verlag, New York, 1991). — 17. CRAMER, P., *J. Pers.*, 55 (1987) 597. — 18. VALLIANT, G. E.: *Adaptation to Life*. (Little, Brown and Company, Boston, 1984). — 19. CRAMER, P., *J. Pers.*, 59 (1991) 39. — 20. PORCERELLI, J. H., S. TOMAS, S. HIBBARD, R. COGAN, *J. Pers. Assess.*, 71 (1998) 411. — 21. RUDAN, V., *Adolescencija*. In: KLAIN, E. (Eds.): *Psihološka medicina*. In Croat. (Golden marketing, Zagreb, 1999). — 22. GRAOVAC, M., *Stilovi suočavanja sa stresom tijekom srednje faze adolescencije u srednjoškolača*. PhD Thesis. In Croat. (University of Rijeka, Rijeka, 2003). — 23. VALLIANT, G. E., *Am. Psychol.*, 55 (2000) 89. — 24. CRAMER, P., *Am Psychol.*, (2000) 637. — 25. DAVIDSON, K., M. W. MacGREGOR., *J. Pers.*, 66 (1998) 965. — 26. PLUTCHIK, R., H. KELLERMAN, H. R. CONTE, *A structural theory of ego defenses and emotions*. In: IZARD, C. E. (Ed.): *Emotions in personality and psychopathology*. (Plenum Press, New York, 1979). — 27. CONTE, H. R., R. PLUTCHIK, *The measure-*

ment of ego defenses in clinical research. In: HENKSCHHEL, G. J., W. EHLERS, J. G. DRAGUNS (Eds.): *The concept of defense mechanisms in contemporary psychology: Theoretical, research and clinical perspectives*. (Springer-Verlag, New York, 1993). — 28. KELLERMAN, H., *A structural model of emotion and personality: Psychoanalytic and sociobiological implications*. In: PLUTCHIK, R., H. KELLERMAN (Eds.): *Emotion: Theory, research and experience*. (Academic Press, New York, 1980). — 29. LAMOVEC, T.: *Upitnik životnog stila i obrambeni mehanizmi*. In Croat. (Zavod SR Slovenije za produktivnost dela Ljubljana, Centar za psihodijagnostička sredstva, Ljubljana, 1990). — 30. FELDMAN, S. S., K. B. ARAUJO, H. STEINER, *J. Am. Ac. Child Adol. Psy.*, 34 (1996) 1334. — 31. ARAUJO, K. B., E. RYST, H. STEINER, *Child Psychiatry Hum. Dev.*, 30 (1999) 19. — 32. WEGNER, D. M., *Clin. Psychol. Rev.*, 101 (1994) 4. — 33. BIRD, G., K. MELVILLE: *Families and Intimate Relationships*. (McGraw, New York, 1994).

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PROMJENE OBRAMBENIH MECHANIZAMA KOD ADOLESCENATA TIJEKOM PRVE GODINE SREDNJOŠKOLSKOG OBRAZOVANJA

SAŽETAK

Cilj ove studije bio je praćenje promjena obrambenih mehanizama kod adolescenata tijekom njihove prilagodbe na nove uvjete školovanja tijekom prve godine u srednjoj školi. U istraživanje je uključeno 266 učenika, prosječne dobi 15 godina. Primjenjen je Kellermanov Upitnik životnog stila (LSI) za mjerenje obrambenih mehanizama na početku i na kraju školske godine. Rezultati pokazuju da se regresija i reaktivna formacija najviše mijenjaju; regresija raste ($p < 0,005$) dok reaktivna formacija opada ($p < 0,000$). Dečki češće koriste represiju, dok djevojke reaktivnu formaciju u oba mjerenja. Premještanje je „muška« obrana u prvom mjerenju, ali se u ponovljenom mjerenju ova razlika među spolovima gubi. Izvori anksioznosti u populaciji adolescenata ove dobi nalaze se jednim djelom u novoj školskoj sredini, a drugim djelom u nastojanjima »izlazenja na kraj« sa seksualnim impulsima i agresivnošću, sa čime se djevojke i mladići različito nose, koristeći različite setove obrana.